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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,134	07/20/2000	Srinivasa L. Iyer	2992-12	2823

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EXAMINER

NGUYEN, CHI Q

ART UNIT	PAPER NUMBER
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3635

DATE MAILED: 08/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/620,134

Applicant(s)

IYER, SRINIVASA L.

Examiner

Chi Q Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 15 and 16 is/are allowed.
- 6) ☒ Claim(s) 1, 14, 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☒ Interview Summary (PTO-413) Paper No(s). 5.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

This Office action is response to the applicant's request for reconsideration filed on 7/14/03. Upon further consideration, the previous final office action is withdrawn and the new arts and new ground of rejections are presented as following:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 14, 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seible (US 6,189,286) in view of Chatelain (US 5,580,480).

Seible teaches modular fiber-reinforced composite structural member comprising a fiber-reinforced outer shell 103 filled with concrete core 105. The tubular housing or shell 103 is made of high-strength carbon fibers or polymer (col. 6, line 35-43), and having a geometrically shaped cross-section (figs. 2a-2c).

Seible does not teach expressly the tubular housing beam having reinforcing rods so that the concrete material surrounding the reinforcing rods. Chatelain teaches structural elements for concrete filled reinforcing by a plurality of metal rods 48 (see fig. 6). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Seible with Chatelain for the reinforcing rods embedded in the concrete. The motivation for doing so would have been to provide a stronger concrete beam.

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Furthermore, having reinforcing rods embedded in the concrete material is old and well known in the construction art.

With regards to claims 1 and 17, Seible and Chatelain teach the structural elements for the reinforcing beam except for a Poisson's ratio of the tubular housing is less than the solid material in thereby confines the solid material. This is a recitation of desired result. Design parameters such as this are a matter of obvious engineering routine wherein the parameter is predetermined and then the engineer sets forth the materials to meet the parameter. If there is some structural aspect of the beam that is unique to this parameter then applicant should specifically recite it in the claims.

With regards to claim 14, Seible and Chatelain teach the structural elements for the construction beams except for the plurality of beams are secured side-to-side. It would have been obvious one of ordinary skill in the art at the time the invention was made to arrange and secure the beams side-by-side, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

The motivation for doing so would have been to provide a stronger support.

3. Claims 17-20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nevin (US 5,675,956).

In regards to method claims 17-20, and 22, Nevin teaches post and pole construction using composite material comprising a plurality of PVC cylinder 10 having outer skin 48, inner core filled with concrete material 32, reinforcing rod 50 (see figs.4-10). The steps of making the pole or post including provide post with outer weather resistant plastic, pour a mixture of concrete into the core (see col. 7). Nevin does not explicitly teach the

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construction beam wherein a Poisson's ratio of the tubular housing is less than the solid material in thereby confines the solid material (see rejections in paragraph 2).

4. Claims 3, 4, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seible (US 6,189,286) in view of Chatelain (US 5,580,480) and Keesling (US 5,509,759) and Schwager (US 5,960,597).

In regards to claims 3,4,16, Seible and Chatelain teach the structural elements for the concrete tubular beams except for the at least one reinforcing rod is stressed using a pro-and -post tension methods in the tubular housing. Keesling teaches pre-stressed cables 14 (see cols. 3-4), and Schwager teaches method for post-tensioning cables 122 (see fig. 2a) for concrete column 110. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Seible and Chatelain with Keesling and Schwager for teaching methods of pre and post reinforced rods or cables, respectively. The motivation for doing so would have been to provide the reinforced cables to achieve the high stress ranges.

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Allowable Subject Matter

5. Claims 15 and 16 are allowable because no prior arts teach or render obvious the claimed combination including a decking system having plurality of concrete filled having at least one transverse aperture for defining a corresponding at least one transverse channel, and at least one reinforcing bar extending through the transverse channel as specifically set forth in the claims.

Response to Arguments

6. Applicant's arguments with respect to claims 1-14, and 17-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Christian (US 5,253,458), Ben-Zvi (US 3,858,374), Mahfouz (US 6,219,988), Mirmiran (US 6,123,485) teach tubular housing filled with hard material.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chi Q. Nguyen whose telephone number is (703) 605-1224, Monday-Thursday (7:00-5:30), Fridays off or examiner's supervisor, Carl Friedman can be reached at (703) 308-0839. The fax number for the organization where this application or proceeding assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.



CQN
8/6/03



Carl D. Friedman
Supervisory Patent Examiner
Group 3600